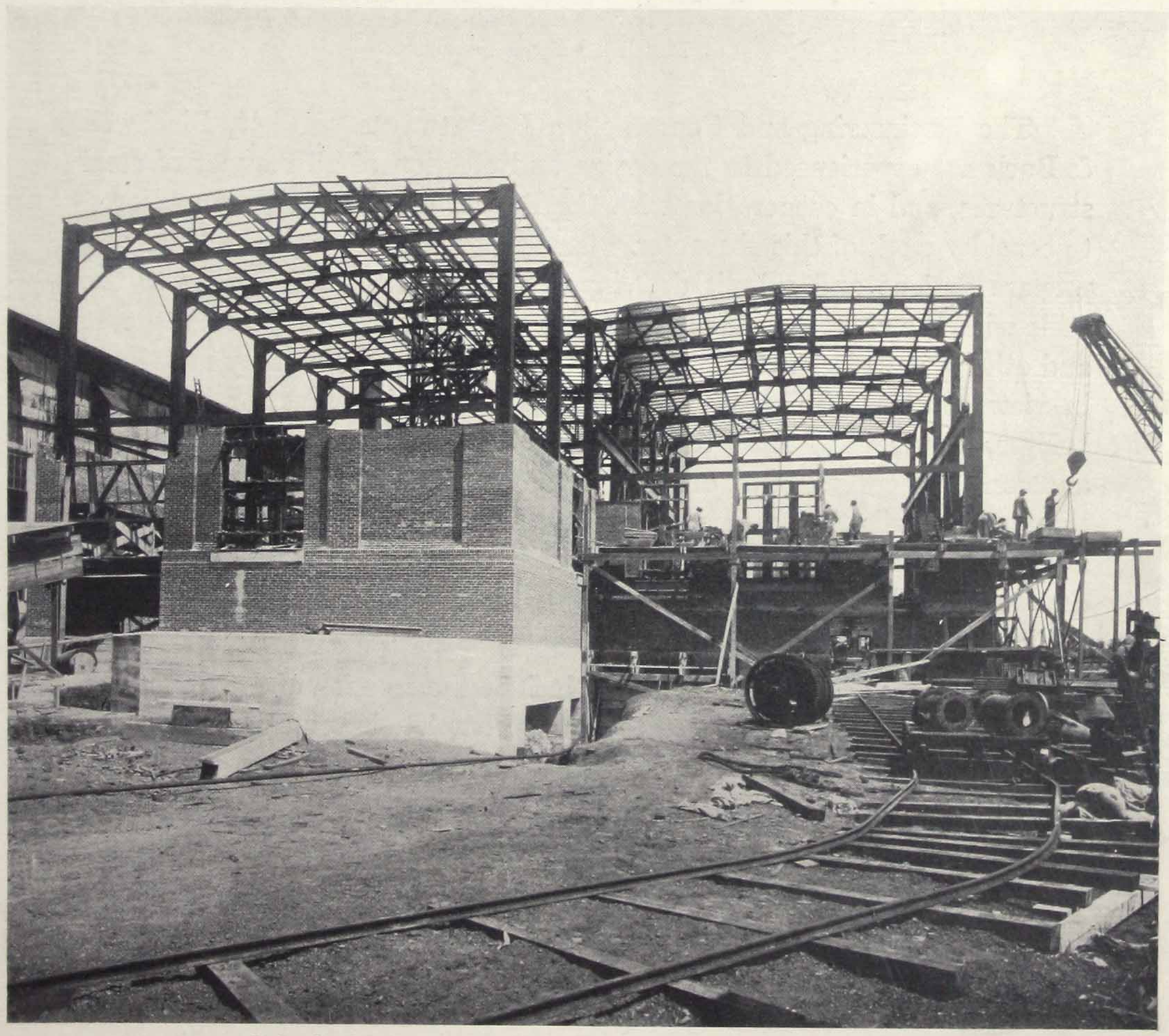
Vielé, Blackwell & Buck

Exporters · Importers · Engineers · Contractors

49 Wall Street — New York, U.S.A.

Bulletin No. 2-A

STRUCTURAL STEEL



Designed and Constructed by the Engineering Department of Vielé, Blackwell & Buck

THE tables on the following pages show general details of the structural steel sections that are being rolled regularly by American mills. These are the sections which under normal conditions are usually carried in stock for prompt shipment. It will materially facilitate prompt quotations if inquiries state the section numbers and lengths and tonnage of each.

It is urged that specifications accompany all inquiries for quotations, but if conditions make this impracticable, we will submit base prices from which net prices may be determined for all sizes by adding the standard extras. Copy of the list of Standard American Extras will be furnished upon request.

Special sizes and shapes are available and complete particulars will be submitted promptly on receipt of specifications.

The Engineering and Construction Departments of Vielé, Blackwell & Buck are experienced in the design and erection of all manner of steel structures, and in cooperation with the Export Department, are prepared to consider work of this character. On receipt of necessary details we will prepare designs and submit drawings together with specifications to the mills with the object of advising foreign merchants and buyers as to cost and other particulars in connection with any project which they may have in view covering the erection of structural steel framings for buildings, bridges, towers, etc. After drawings have been accepted by our customers and contracts entered into, our organization is very well fitted to follow up the many details that are necessary at our New York Office, at the mills, and during transportation to the end that the material when received at destination will be satisfactory throughout and capable of erection with a minimum of labor.

Where it is desired that our work include the erection of the structures on the ground we will be pleased to furnish complete information on receipt of all of the particulars that are necessary for the preparation of estimates.

In cases where it is necessary for us to have a comprehensive report before intelligent engineering recommendations as to cost and feasibility can be made, and where it is impracticable for our customers to supply such a report, we are prepared to send one or more of our engineers to make all of the necessary investigations.

I-BEAMS

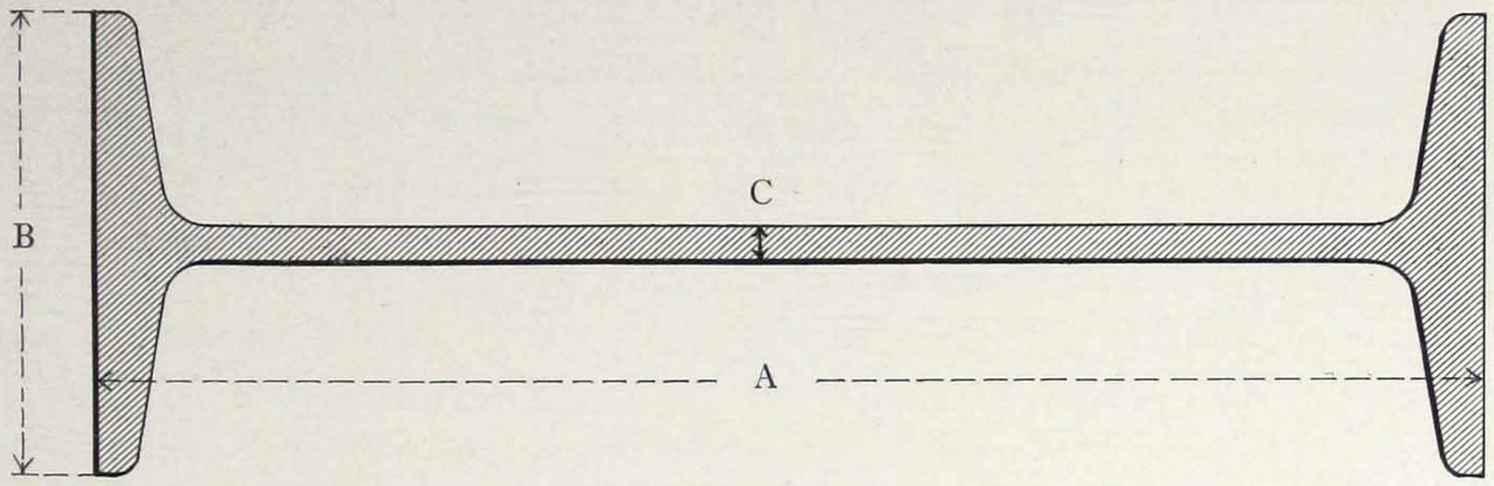


FIG. No. 1

DIMENSIONS AND WEIGHTS OF STANDARD I-BEAMS

Section No.	Depth of Beam (A)		Weight		Flange Width (B)		Web Thickness (C)	
	Inches	M/M	Pounds, Per Foot	Kilos, Per Meter	Inches	M/M	Inch	M/M
B-1	3	76	5½	8.19	2 21/64	59	.170	4.32
B-2	3	76	6½	9.67	2 27/64	62	.263	6.68
B-3	3	76	7½	11.16	2 33/64	64	.361	9.17
B-4	4	102	7½	11.16	2 21/32	68	.190	4.83
B-5	4	102	8½	12.65	2 47/64	69	.263	6.68
B-6	4	102	9½	14.14	2 13/16	71	.337	8.56
B-7	4	102	10½	15.63	2 7/8	73	.410	10.41
B-8	5	127	9¾	14.51	3	76	.210	5.33
B-9	5	127	12¼	18.23	3 9/64	80	.357	9.07
B-10	5	127	14¾	21.95	3 19/64	84	.504	12.80
B-11	6	152	12¼	18.23	3 21/64	85	.230	5.84
B-12	6	152	14¾	21.95	3 29/64	88	.352	8.94
B-13	6	152	17¼	25.67	3 7/64	91	.230	12.07
B-14	7	178	15	22.32	3 2/32	93	.250	6.35
B-15	7	178	17½	26.04	3 49/64	96	.353	8.97
B-16	7	178	20	29.76	3 7/8	98	.458	11.63
B-17	8	203	18	26.79	4	102	.270	6.86
B-18	8	203	20½	30.51	4 3/32	104	.357	9.07
B-19	8	203	23	34.23	4 11/64	106	.449	11.41
B-20	8	203	25½	37.95	4 17/61	108	.541	13.74
B-21	9	229	21	31.25	4 21/64	110	.290	7.37
B-22	9	229	25	37.20	4 29/64	113	.406	10.31
B-23	9	229	30	44.65	4 39/64	117	.569	14.45
B-24	9	229	35	52.09	4 49/64	121	.732	18.59
B-25	10	254	25	37.20	4 21/32	118	.310	7.87
B-26	10	254	30	44.65	4 13/16	122	.455	11.56
B-27	10	254	35	52.09	4 61/64	126	.602	15.29
B-28	10	254	40	59.53	5 3/32	130	.749	19.03
B-29	12	305	31½	46.88	5	127	.350	8.89
B-30	12	305	35	52.09	5 3/32	129	.436	11.08
B-31	12	305	40	59.53	5¼	133	.460	11.68
B-32	12	305	45	66.97	5 23/64	136	.576	14.63
B-33	12	305	50	74.41	5 31/64	139	.699	17.76
B-34	12	305	55	81.85	5 39/64	143	.821	20.85
B-35	15	381	42	62.50	5½	140	.410	10.41
B-36	15	381	45	66.97	5 35/64	141	.460	11.68
B-37	15	381	50	74.41	5 41/64	143	.558	14.17
B-38	15	381	55	81.85	5¾	146	.656	16.66
B-39	15	381	60	89.29	6	152	.590	14.99
B-40	18	457	65	96.73	6 11/64	157	.637	16.18

I-BEAMS—*(Continued)*

DIMENSIONS AND WEIGHTS OF STANDARD I-BEAMS

Section No.	Depth of Beam (A)		Weight		Flange Width (B)		Web Thickness (C)	
	Inches	M/M	Pounds, Per Foot	Kilos, Per Meter	Inches	M/M	Inch	M/M
B-41	18	457	70	104.17	$6\frac{17}{64}$	159	.719	18.26
B-42	18	457	75	111.61	7	178	.562	14.28
B-43	18	457	80	119.05	$7\frac{5}{64}$	180	.644	16.36
B-44	18	457	85	126.49	$7\frac{5}{32}$	182	.725	18.42
B-45	18	457	90	133.93	$7\frac{1}{4}$	184	.807	20.50
B-46	20	508	65	96.73	$6\frac{1}{4}$	159	.500	12.70
B-47	20	508	70	104.17	$6\frac{21}{64}$	161	.575	14.61
B-48	20	508	75	111.61	$6\frac{13}{32}$	163	.649	16.48
B-49	20	508	80	119.05	7	178	.600	15.24
B-50	20	508	85	126.49	$7\frac{1}{16}$	179	.663	16.84
B-51	20	508	90	133.93	$7\frac{9}{64}$	181	.737	18.72
B-52	20	508	95	141.38	$7\frac{13}{64}$	183	.810	20.57
B-53	20	508	100	148.82	$7\frac{9}{32}$	185	.884	22.45
B-54	24	610	80	119.05	7	178	.500	12.70
B-55	24	610	85	126.49	$7\frac{1}{16}$	180	.570	14.48
B-56	24	610	90	133.93	$7\frac{1}{8}$	181	.631	16.03
B-57	24	610	95	141.38	$7\frac{3}{16}$	183	.693	17.60
B-58	24	610	100	148.82	$7\frac{1}{4}$	184	.754	19.15
B-59	24	610	105	156.26	$7\frac{7}{8}$	200	.625	15.88
B-60	24	610	110	163.70	$7\frac{15}{16}$	202	.688	17.47
B-61	24	610	115	171.14	8	203	.750	19.05
B-62	24	610	120	178.58	$8\frac{1}{16}$	205	.812	20.62

BULB BEAMS

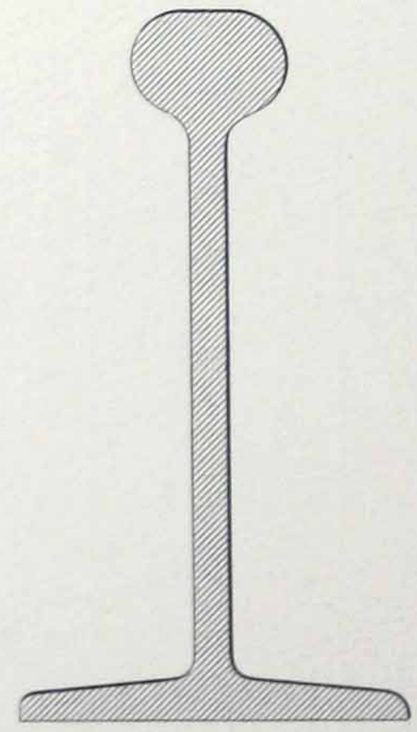


FIG. 2

We will be pleased to quote on Bulb Beams upon receipt of specifications.

BETHLEHEM H COLUMNS

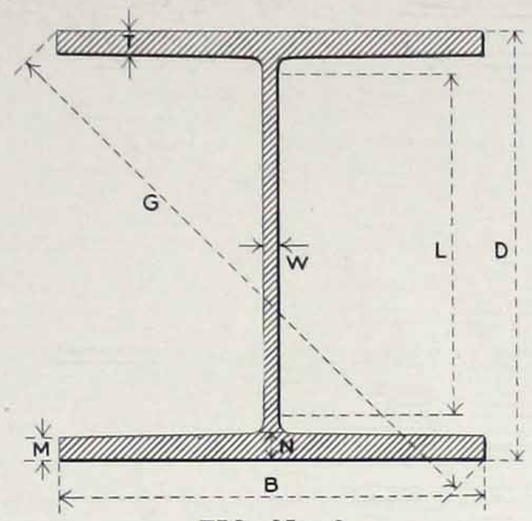


FIG. No. 3

Section No.	Weight of Section		DIMENSIONS IN INCHES AND M.M.													
			D		T		B		W		M		N		G		L	
	Pounds per Foot	Kilos per M.	Inches	Mm.	Inches	Mm.	Inches	Mm.	Inches	Mm.	Inches	Mm.	Inches	Mm.	Inches	Mm.	Inches	Mm.
H-1	32.0	47.621	7⅞	200.02	7/16	11.112	8.00	203.20	.31	.....	.399	10.14	.476	12.09	11¼	285.74	6.14	155.96
H-2	34.5	51.342	8	203.20	½	12.700	8.00	203.20	.31	7.87	.462	11.73	.538	13.67	11⅜	288.92	6.14	155.96
H-3	39.0	58.039	8⅛	206.37	9/16	14.287	8.04	204.22	.35	8.89	.524	13.31	.601	15.27	11 7/16	290.51	6.14	155.96
H-4	43.5	64.736	8¼	209.55	⅝	15.875	8.08	205.23	.39	9.91	.587	14.91	.663	16.84	11 9/16	293.68	6.14	155.96
H-5	48.0	71.432	8⅜	212.72	11/16	17.462	8.12	206.25	.43	10.92	.649	16.48	.726	18.44	11 11/16	296.86	6.14	155.96
H-6	53.0	78.874	8½	215.90	¾	19.050	8.16	207.26	.47	11.94	.712	18.08	.788	20.02	11 13/16	300.03	6.14	155.96
H-7	57.5	85.570	8⅝	219.07	13/16	20.637	8.20	208.28	.51	12.95	.774	19.66	.851	21.62	12	304.79	6.14	155.96
H-8	62.0	92.267	8¾	222.25	⅞	22.225	8.24	209.30	.55	13.97	.837	21.26	.913	23.19	12 1/16	306.38	6.14	155.96
H-9	67.0	99.708	8⅞	225.42	15/16	23.812	8.28	210.31	.59	14.99	.899	22.83	.976	24.79	12⅛	307.97	6.14	155.96
H-10	71.5	106.40	9	228.60	1	25.400	8.32	211.33	.63	16.00	.962	24.43	1.038	26.37	12¼	311.14	6.14	155.96
H-11	76.5	113.84	9⅛	231.77	1 1/16	26.987	8.36	212.34	.67	17.02	1.024	26.01	1.101	27.97	12⅜	314.32	6.14	155.96
H-12	81.0	120.52	9¼	234.95	1⅛	28.574	8.39	213.11	.70	17.78	1.087	27.61	1.163	29.54	12½	317.49	6.14	155.96
H-13	85.5	127.23	9⅜	238.12	1 3/16	30.162	8.43	214.12	.74	18.80	1.149	29.18	1.226	31.14	12⅝	320.67	6.14	155.96
H-14	90.5	134.68	9½	241.30	1¼	31.749	8.47	215.14	.78	19.81	1.212	30.78	1.288	32.72	12¾	323.84	6.14	155.96
H-15	49.0	72.921	9⅞	250.82	9/16	14.287	9.97	253.24	.36	9.14	.514	13.06	.611	15.52	14 1/16	357.18	7.67	194.82
H-16	54.0	80.362	10	254.00	⅝	15.875	10.00	254.00	.39	9.91	.577	14.66	.673	17.09	13 3/16	360.36	7.67	194.82
H-17	59.5	88.547	10⅛	257.17	11/16	17.462	10.04	255.02	.43	10.92	.639	16.23	.736	18.69	14 5/16	363.53	7.67	194.82
H-18	65.5	97.476	10¼	260.35	¾	19.050	10.08	256.03	.47	11.94	.702	17.83	.798	20.27	14⅜	365.12	7.67	194.82
H-19	71.0	105.66	10⅜	263.52	13/16	20.637	10.12	257.05	.51	12.95	.764	19.41	.861	21.87	14½	368.29	7.67	194.82
H-20	77.0	114.58	10½	266.70	⅞	22.225	10.16	258.06	.55	13.97	.827	21.01	.923	23.44	14⅝	371.47	7.67	194.82
H-21	82.5	122.77	10⅝	269.87	15/16	23.812	10.20	259.08	.59	14.99	.889	22.58	.986	25.04	14¾	374.64	7.67	194.82
H-22	88.5	131.69	10¾	273.05	1	25.400	10.24	260.10	.63	16.00	.952	24.18	1.048	26.62	14⅞	377.82	7.67	194.82
H-23	94.0	139.88	10⅞	276.22	1 1/16	26.987	10.28	261.11	.67	17.02	1.014	25.76	1.111	28.22	15	380.89	7.67	194.82
H-24	99.5	148.07	11	279.39	1⅛	28.574	10.31	262.89	.70	17.78	1.077	27.36	1.173	29.79	15⅛	384.17	7.67	194.82
H-25	105.5	157.00	11⅛	282.57	1 3/16	30.162	10.35	262.89	.74	18.80	1.139	28.93	1.236	31.39	15 3/16	385.76	7.67	194.82
H-26	111.5	165.93	11¼	285.74	1¼	31.749	10.39	263.91	.78	19.81	1.202	30.53	1.298	32.97	15 5/16	388.93	7.67	194.82
H-27	117.5	174.86	11⅜	289.92	1 5/16	33.337	10.43	264.92	.82	20.83	1.264	32.17	1.361	34.56	15 7/16	392.11	7.67	194.82
H-28	123.5	183.79	11½	292.09	1⅜	34.924	10.47	265.94	.86	21.84	1.327	33.71	1.423	36.14	15 9/16	395.28	7.67	194.82
H-29	64.5	95.988	11¾	298.44	⅝	15.875	11.92	302.77	.39	9.91	.567	14.40	.683	17.35	16¾	425.44	9.21	233.93
H-30	71.5	106.40	11⅞	301.62	11/16	17.462	11.96	303.78	.43	10.92	.630	16.00	.745	18.92	16⅞	428.62	9.21	233.93
H-31	78.0	116.07	12	304.79	¾	19.050	12.00	304.80	.47	11.94	.692	17.58	.808	20.52	17	431.79	9.21	233.93
H-32	84.5	125.75	12⅛	307.97	13/16	20.637	12.04	305.82	.51	12.95	.755	19.18	.870	22.10	17⅛	434.97	9.21	233.93
H-33	91.5	136.16	12¼	311.14	⅞	22.225	12.08	306.83	.55	13.97	.817	20.75	.933	23.70	17¼	438.14	9.21	233.93
H-34	98.5	146.58	12⅜	314.32	15/16	23.812	12.12	307.85	.59	14.99	.880	22.35	.995	25.27	17⅜	441.32	9.21	233.93
H-35	105.0	156.25	12½	317.49	1	25.400	12.16	308.86	.63	16.00	.942	23.93	1.058	26.87	17 7/16	442.90	9.21	233.93
H-36	112.0	166.67	12⅝	320.67	1 1/16	26.987	12.20	309.88	.67	17.02	1.005	25.53	1.120	28.45	17 9/16	446.08	9.21	233.93
H-37	118.5	176.34	12¾	323.84	1⅛	28.574	12.23	310.64	.70	17.78	1.067	27.10	1.183	30.05	17 11/16	449.25	9.21	233.93
H-38	125.5	186.76	12⅞	327.02	1 3/16	30.162	12.27	311.66	.74	18.80	1.130	28.70	1.245	31.62	17 13/16	452.43	9.21	233.93
H-39	132.5	197.18	13	330.19	1¼	31.749	12.31	312.67	.78	19.81	1.192	30.28	1.308	33.22	17 15/16	455.60	9.21	233.93
H-40	139.5	207.60	13⅛	333.37	1 5/16	33.337	12.35	313.69	.82	20.83	1.255	31.88	1.370	34.80	18	457.19	9.21	233.93
H-41	146.5	218.01	13¼	336.54	1⅜	34.924	12.39	314.71	.86	21.85	1.317	33.45	1.433	36.40	18⅛	460.37	9.21	233.93
H-42	153.5	228.43	13⅜	339.72	1 7/16	36.512	12.43	315.72	.90	22.86	1.380	35.05	1.495	37.97	18¼	463.54	9.21	233.93
H-43	161.0	240.34	13½	342.89	1½	38.099	12.47	316.74	.94	23.88	1.442	36.63	1.558	39.57	18⅜	466.72	9.21	233.93
H-44	83.5	124.26	13¾	349.24	11/16	17.462	13.92	353.57	.43	10.92	.620	15.75	.755	19.18	19⅝	498.47	11.06	280.92
H-45	91.0	135.42	13⅞	352.42	¾	19.050	13.96	354.58	.47	11.94	.683	17.35	.817	20.75	19¾	501.64	11.06	280.92
H-46	99.0	147.33	14	355.59	13/16	20.637	14.00	355.60	.51	12.95	.745	18.92	.880	22.35	19 13/16	503.23	11.06	280.92
H-47	106.5	158.49	14⅛	358.77	⅞	22.225	14.04	356.62	.55	13.97	.808	20.52	.942	23.93	19 15/16	506.40	11.06	280.92
H-48	114.5	130.39	14¼	361.94	15/16	23.812	14.08	357.63	.59	14.99	.870	22.10	1.005	25.53	20 1/16	509.58	11.06	280.92
H-49	122.5	182.30	14⅜	365.12	1	25.400	14.12	358.65	.63	16.00	.933	23.70	1.067	27.10	20 3/16	512.75	11.06	280.92
H-50	130.5	194.20	14½	368.29	1 1/16	26.987	14.16	359.66	.67	17.02	.995	25.27	1.130	28.70	20¼	514.34	11.06	280.92
H-51	138.0	205.46	14⅝	371.47	1⅛	28.574	14.19	360.43	.70	17.78	1.058	26.87	1.192	30.28	20⅜	517.52	11.06	280.92
H-52	146.0	217.27	14¾	374.64	1 3/16	30.162	14.23	361.44	.74	18.80	1.120	28.45	1.255	31.88	20½	520.69	11.06	280.92
H-53	154.0	229.18	14⅞	377.82	1¼	31.749	14.27	362.46	.78	19.81	1.183	30.05	1.317	33.45	20⅝	523.87	11.06	280.92
H-54	162.0	241.18	15	380.99	1 5/16	33.337	14.31	363.47	.82	20.83	1.245	31.62	1.380	35.05	20¾	527.04	11.06	280.92
H-55	170.5	253.74	15⅛	384.17	1⅜	34.924	14.35	364.49	.86	21.84	1.308	33.22	1.442	36.63	20⅞	530.22	11.06	280.92
H-56	178.5	265.64	15¼	387.34	1 7/16	36.512	14.39	365.67	.90	22.86	1.370	34.80	1.505	38.23	21	533.39	11.06	280.92
H-57	186.5	277.54	15⅜	390.52	1½	38.099	14.43	366.52	.94	23.88	1.433	36.40	1.567	39.80	21⅛	536.57	11.06	280.92
H-58	195.0	289.19	15½	393.69	1 9/16	39.687	14.47	367.54	.98	24.89	1.495	37.97	1.630	41.40	21¼	539.74	11.06	280.92
H-59	203.5	302.84	15⅝	396.87	1⅝	41.274	14.51	368.55	1.02	25.91	1.558	39.57	1.692	42.98	21⅜	542.92	11.06	280.92
H-60	211.0	313.99	15¾	400.04	1 11/16	42.862	14.54	369.32	1.05	26.92	1.620	41.15	1.755	44.58	21 7/16	544.50	11.06	280.92
H-61	219.5	327.65	15⅞	403.22	1¾	44.449	14.58	370.33	1.09	27.94	1.683	42.75	1.817	46.15	21 9/16	547.68	11.06	280.92
H-62	227.5	338.56	16	406.39	1 13/16	46.037	14.62	371.34	1.13	28.96	1.745	44.32	1.880	47.75	21 11/16	550.85	11.06	280.92
H-63	236.0	351.21	16⅛	409.57	1⅞	47.624	14.66	372.36	1.17	29.97	1.808	45.92	1.942	49.33	21 13/16	554.03	11.06	280.92
H-64	244.5	363.86	16¼	412.74	1 15/16	49.212	14.70	373.38	1.21	30.99	1.870	47.50	2.005	50.93	21 15/16	557.20	11.06	280.92
H-65	253.0	376.51	16⅜	415.92	2	50.799	14.74	374.40	1.25	32.00	1.933	49.10	2.067	52.50	22 1/16	560.38	11.06	280.92
H-66	261.5	389.15	16½	419.09	2 1/16	52.387	14.78	375.41	1.29	33.02	1.995	50.67	2.130	54.10	22 3/16	563.55	11.06	280.92
H-67	270.0	401.80	16⅝	422.27	2⅛	53.974	14.82	376.43	1.33	34.04	2.058	52.27	2.192	55.68	22 5/16	566.73	11.06	280.92
H-68	278.5	414.45	16¾	425.44	2 3/16	55.561	14.86	377.44	1.37	35.05	2.120	53.85	2.255	57.28	22 7/16	569.90	11.06	280.92
H-69	287.5	427.85	16⅞	428.62	2¼	57.149	14.90	378.46	1.41	36.07	2.183	55.45	2.317	58.85	22 9/16	573.08	11.06	280.92

STANDARD CHANNELS

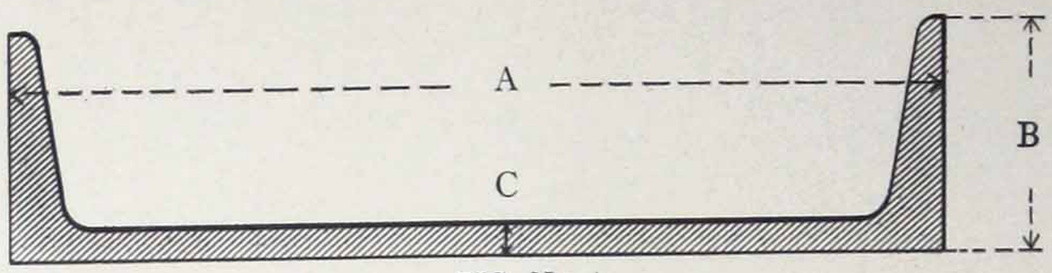


FIG. No. 4

DIMENSIONS AND WEIGHTS OF STANDARD CHANNELS

Section No.	Depth of Channel (A)		Weight		Flange Width (B)		Web Thickness (C)	
	Inches	M/M	Pounds, Per Foot	Kilos, Per Meter	Inches	M/M	Inch	M/M
C-1	3	76	4	5.95	1 13/32	36	.170	4.32
C-2	3	76	5	7.44	1 1/2	38	.264	6.71
C-3	3	76	6	8.93	1 39/64	41	.362	9.19
C-4	4	102	5 1/4	7.81	1 37/64	40	.180	4.57
C-5	4	102	6 1/4	9.30	1 21/32	42	.252	6.40
C-6	4	102	7 1/4	10.79	1 23/32	44	.325	8.26
C-7	5	127	6 1/2	9.67	1 3/4	44	.190	4.83
C-8	5	127	9	13.39	1 57/64	48	.330	8.38
C-9	5	127	11 1/2	17.11	2 1/32	52	.477	12.12
C-10	6	152	8	11.91	1 59/64	49	.200	5.08
C-11	6	152	10 1/2	15.63	2 1/32	52	.318	8.08
C-12	6	152	13	19.35	2 5/32	55	.440	11.18
C-13	6	152	15 1/2	23.07	2 9/32	58	.563	14.30
C-14	7	178	9 3/4	14.51	2 3/32	53	.210	5.33
C-15	7	178	12 1/4	18.23	2 13/64	56	.318	8.08
C-16	7	178	14 3/4	21.95	2 19/64	68	.423	10.74
C-17	7	178	17 1/4	25.67	2 13/32	61	.528	13.41
C-18	7	178	19 3/4	29.39	2 33/64	64	.633	16.08
C-19	8	203	11 1/4	16.74	2 17/64	57	.220	5.59
C-20	8	203	13 3/4	20.46	2 11/32	60	.307	7.80
C-21	8	203	16 1/4	24.18	2 7/16	62	.399	10.13
C-22	8	203	18 3/4	27.90	2 17/32	64	.490	12.45
C-23	8	203	21 1/4	31.62	2 5/8	67	.582	14.78
C-24	9	229	13 1/4	19.72	2 7/16	62	.230	5.84
C-25	9	229	15	22.32	2 31/64	63	.288	7.32
C-26	9	229	20	29.76	2 21/32	67	.452	11.48
C-27	9	229	25	37.20	2 13/16	72	.615	16.62
C-28	10	254	15	22.32	2 19/32	66	.240	6.10
C-29	10	254	20	29.76	2 47/64	70	.382	9.70
C-30	10	254	25	37.20	2 57/64	73	.529	13.44
C-31	10	254	30	44.65	3 1/32	77	.676	17.17
C-32	10	254	35	52.09	3 3/16	81	.823	20.90
C-33	12	305	20 1/2	30.51	2 15/16	75	.280	7.11
C-34	12	305	25	37.20	3 3/64	77	.390	9.91
C-35	12	305	30	44.65	3 11/64	81	.513	13.03
C-36	12	305	35	52.09	3 19/64	84	.636	16.15
C-37	12	305	40	59.53	3 27/64	87	.758	19.25
C-38	13	330	32	47.62	4	102	.375	9.53
C-39	13	330	35	52.09	4 5/64	104	.452	11.48
C-40	13	330	37	55.06	4 1/8	105	.497	12.62
C-41	13	330	40	59.53	4 3/16	106	.565	14.35
C-42	13	330	45	66.97	4 19/64	109	.678	17.22
C-43	13	330	50	74.41	4 27/64	112	.791	20.09
C-44	15	381	33	49.11	3 13/32	86	.400	10.16
C-45	15	381	35	52.09	3 27/64	87	.426	10.82
C-46	15	381	40	59.53	3 17/32	89	.524	13.31
C-47	15	381	45	66.97	3 5/8	92	.622	15.80
C-48	15	381	50	74.41	3 23/32	94	.720	18.29
C-49	15	381	55	81.85	3 3/16	97	.818	20.78

SMALL CHANNELS

Due to the special character and sizes of channels less than 3 inches, we will quote only upon receipt of specifications

SHIP-BUILDING CHANNELS

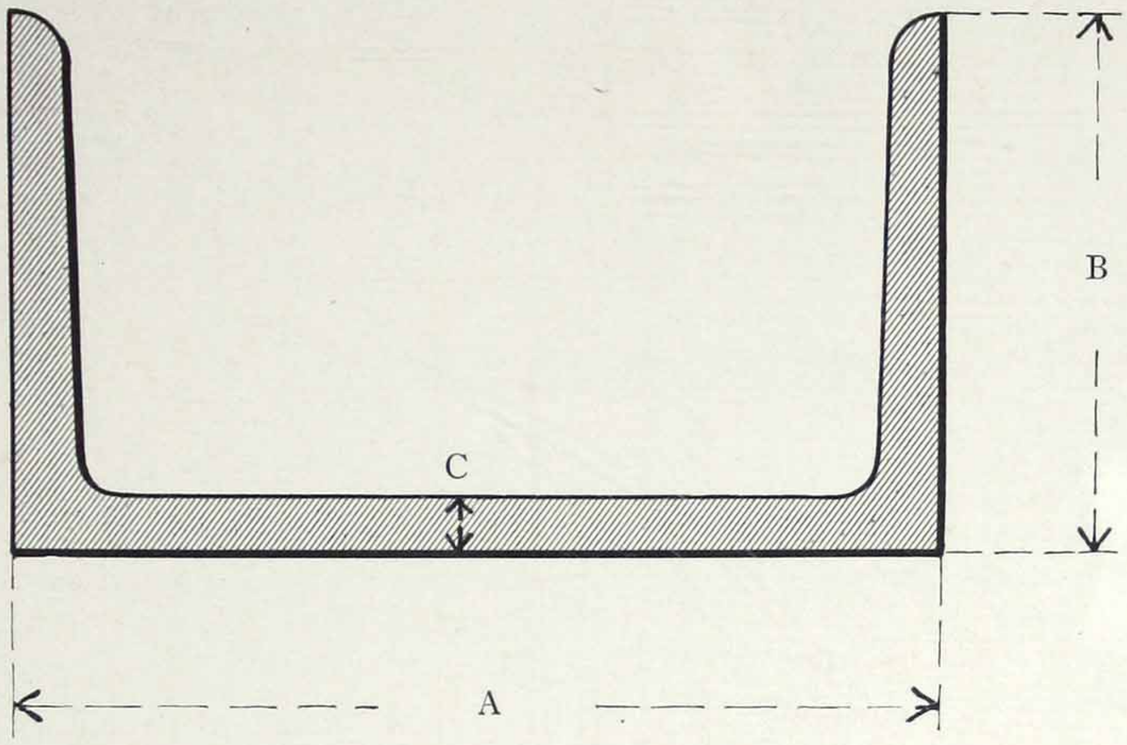


FIG. No. 5

DIMENSIONS AND WEIGHTS OF SHIP-BUILDING CHANNELS

Section No.	Depth of Beam (A)		Weight		Flange Width (B)		Web Thickness (C)	
	Inches	M/M	Pounds, Per Foot	Kilos, Per Meter	Inches	M/M	Inch	M/M
C-50	6	152	13.0	19.30	$2\frac{13}{16}$	71	.313	7.95
C-51	6	152	18.1	26.90	$3\frac{1}{16}$	78	.563	14.30
C-52	6	152	19.0	28.28	$3\frac{9}{16}$	90	.410	10.41
C-53	7	178	20.9	31.10	$3\frac{29}{64}$	88	.450	11.43
C-54	7	178	22.1	32.89	$3\frac{1}{2}$	89	.500	12.70
C-55	8	203	21.5	32.00	$3\frac{27}{64}$	87	.415	10.54
C-56	8	203	23.8	35.42	$3\frac{1}{2}$	89	.500	12.70
C-57	8	203	25.2	37.50	$3\frac{35}{64}$	90	.550	13.97
C-58	8	203	26.5	39.44	$3\frac{19}{32}$	91	.600	15.24
C-59	8	203	27.2	40.48	$3\frac{5}{8}$	92	.625	15.88
C-60	9	229	28.6	42.56	$3\frac{51}{64}$	97	.450	11.43
C-61	9	229	31.7	47.17	$3\frac{29}{32}$	99	.550	13.97
C-62	9	229	34.7	51.64	4	102	.650	16.51
C-63	10	254	21.7	32.29	$3\frac{3}{8}$	86	.375	9.53
C-64	10	254	27.2	40.48	$3\frac{1}{2}$	89	.500	12.70

The sizes shown are those most generally in use. Other sizes can be furnished upon application.

ANGLES WITH EQUAL LEGS

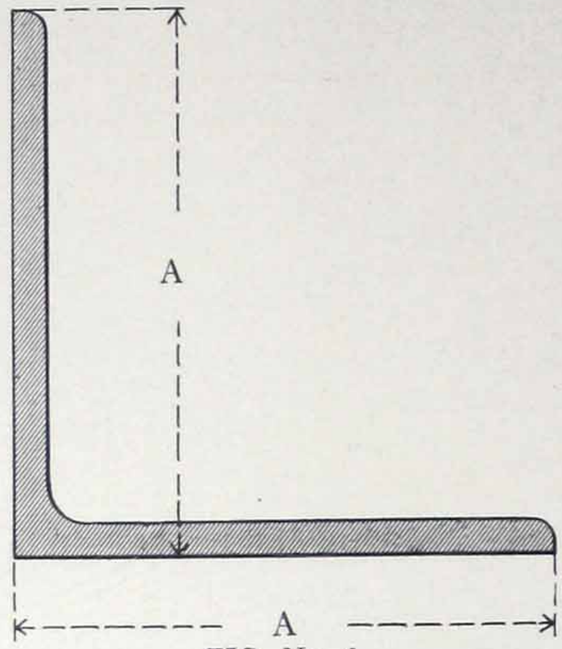


FIG. No. 6

DIMENSIONS AND WEIGHTS OF ANGLES WITH EQUAL LEGS

Section No.	Size (A)		Thickness of Metal		Weight	
	Inches	M/M	Inch	M/M	Pounds, Per Foot	Kilos, Per Meter
A-1	3/4 x 3/4	19 x 19	3/32	2.38	0.45	0.67
A-2	3/4 x 3/4	19 x 19	1/8	3.18	0.59	0.88
A-3	3/4 x 3/4	19 x 19	3/16	4.76	0.84	1.25
A-4	1 x 1	25 x 25	No. 12 B. W. G.	2.77	0.71	1.06
A-5	1 x 1	25 x 25	1/8	3.18	0.80	1.19
A-6	1 x 1	25 x 25	3/16	4.76	1.16	1.73
A-7	1 x 1	25 x 25	1/4	6.35	1.49	2.22
A-8	1 1/4 x 1 1/4	32 x 32	1/8	3.18	1.01	1.50
A-9	1 1/4 x 1 1/4	32 x 32	3/16	4.76	1.48	2.20
A-10	1 1/4 x 1 1/4	32 x 32	1/4	6.35	1.92	2.86
A-11	1 1/4 x 1 1/4	32 x 32	5/16	7.94	2.33	3.47
A-12	1 1/2 x 1 1/2	38 x 38	1/8	3.18	1.23	1.83
A-13	1 1/2 x 1 1/2	38 x 38	3/16	4.76	1.80	2.68
A-14	1 1/2 x 1 1/2	38 x 38	1/4	6.35	2.34	3.48
A-15	1 1/2 x 1 1/2	38 x 38	5/16	7.94	2.86	4.26
A-16	1 1/2 x 1 1/2	38 x 38	3/8	9.53	3.35	4.99
A-17	1 3/4 x 1 3/4	44 x 44	1/8	3.18	1.44	2.14
A-18	1 3/4 x 1 3/4	44 x 44	3/16	4.76	2.12	3.15
A-19	1 3/4 x 1 3/4	44 x 44	1/4	6.35	2.77	4.12
A-20	1 3/4 x 1 3/4	44 x 44	5/16	7.94	3.39	5.04
A-21	1 3/4 x 1 3/4	44 x 44	3/8	9.53	3.99	5.94
A-22	1 3/4 x 1 3/4	44 x 44	7/16	11.11	4.60	6.85
A-23	2 x 2	51 x 51	1/8	3.18	1.65	2.46
A-24	2 x 2	51 x 51	3/16	4.76	2.44	3.63
A-25	2 x 2	51 x 51	1/4	6.35	3.19	4.75
A-26	2 x 2	51 x 51	5/16	7.94	3.92	5.83
A-27	2 x 2	51 x 51	3/8	9.53	4.70	6.99
A-28	2 x 2	51 x 51	7/16	11.11	5.30	7.89
A-29	2 1/4 x 2 1/4	57 x 57	1/8	3.18	1.86	2.77
A-30	2 1/4 x 2 1/4	57 x 57	3/16	4.76	2.75	4.09
A-31	2 1/4 x 2 1/4	57 x 57	1/4	6.35	3.62	5.39
A-32	2 1/4 x 2 1/4	57 x 57	5/16	7.94	4.5	6.70
A-33	2 1/4 x 2 1/4	57 x 57	3/8	9.53	5.3	7.89
A-34	2 1/4 x 2 1/4	57 x 57	7/16	11.11	6.1	9.08
A-35	2 1/4 x 2 1/4	57 x 57	1/2	12.70	6.8	10.12
A-36	2 1/2 x 2 1/2	64 x 64	1/8	3.18	2.08	3.10
A-37	2 1/2 x 2 1/2	64 x 64	3/16	4.76	3.07	4.57
A-38	2 1/2 x 2 1/2	64 x 64	1/4	6.35	4.1	6.10
A-39	2 1/2 x 2 1/2	64 x 64	5/16	7.94	5.0	7.44
A-40	2 1/2 x 2 1/2	64 x 64	3/8	9.53	5.9	8.78
A-41	2 1/2 x 2 1/2	64 x 64	7/16	11.11	6.8	10.12
A-42	2 1/2 x 2 1/2	64 x 64	1/2	12.70	7.7	11.46

Angles smaller than 3/4 inch furnished upon receipt of specifications.

ANGLES WITH EQUAL LEGS—*(Continued)*

DIMENSIONS AND WEIGHTS OF ANGLES WITH EQUAL LEGS

Section No.	Size (A)		Thickness of Metal		Weight	
	Inches	M/M	Inch	M/M	Pounds, Per Foot	Kilos, Per Meter
A-43	3 x 3	76 x 76	1/8	3.18	2.5	3.72
A-44	3 x 3	76 x 76	3/16	4.76	3.7	5.52
A-45	3 x 3	76 x 76	1/4	6.35	4.9	7.29
A-46	3 x 3	76 x 76	5/16	7.94	6.1	9.08
A-47	3 x 3	76 x 76	3/8	9.53	7.2	10.72
A-48	3 x 3	76 x 76	7/16	11.11	8.3	12.35
A-49	3 x 3	76 x 76	1/2	12.70	9.4	13.99
A-50	3 x 3	76 x 76	9/16	14.29	10.4	15.48
A-51	3 x 3	76 x 76	5/8	15.88	11.5	17.11
A-52	3 1/2 x 3 1/2	89 x 89	1/4	6.35	5.8	8.63
A-53	3 1/2 x 3 1/2	89 x 89	5/16	7.94	7.2	10.72
A-54	3 1/2 x 3 1/2	89 x 89	3/8	9.53	8.5	12.65
A-55	3 1/2 x 3 1/2	89 x 89	7/16	11.11	9.8	14.58
A-56	3 1/2 x 3 1/2	89 x 89	1/2	12.70	11.1	16.52
A-57	3 1/2 x 3 1/2	89 x 89	9/16	14.29	12.4	18.45
A-58	3 1/2 x 3 1/2	89 x 89	5/8	15.88	13.6	20.24
A-59	3 1/2 x 3 1/2	89 x 89	11/16	17.46	14.8	22.03
A-60	3 1/2 x 3 1/2	89 x 89	3/4	19.05	16.0	23.81
A-61	3 1/2 x 3 1/2	89 x 89	13/16	20.64	17.1	25.45
A-62	4 x 4	102 x 102	1/4	6.35	6.6	9.82
A-63	4 x 4	102 x 102	5/16	7.94	8.2	12.20
A-64	4 x 4	102 x 102	3/8	9.53	9.8	14.58
A-65	4 x 4	102 x 102	7/16	11.11	11.3	16.82
A-66	4 x 4	102 x 102	1/2	12.70	12.8	19.05
A-67	4 x 4	102 x 102	9/16	14.29	14.3	21.28
A-68	4 x 4	102 x 102	5/8	15.88	15.7	23.36
A-69	4 x 4	102 x 102	11/16	17.46	17.1	25.45
A-70	4 x 4	102 x 102	3/4	19.05	18.5	27.53
A-71	4 x 4	102 x 102	13/16	20.64	19.9	29.61
A-72	5 x 5	127 x 127	3/8	9.53	12.3	18.30
A-73	5 x 5	127 x 127	7/16	11.11	14.3	21.28
A-74	5 x 5	127 x 127	1/2	12.70	16.2	24.11
A-75	5 x 5	127 x 127	9/16	14.29	18.1	26.94
A-76	5 x 5	127 x 127	5/8	15.88	20.0	29.76
A-77	5 x 5	127 x 127	11/16	17.46	21.8	32.44
A-78	5 x 5	127 x 127	3/4	19.05	23.6	35.12
A-79	5 x 5	127 x 127	13/16	20.64	25.4	37.80
A-80	5 x 5	127 x 127	7/8	22.23	27.2	40.48
A-81	5 x 5	127 x 127	15/16	23.81	28.9	43.01
A-82	5 x 5	127 x 127	1	25.40	30.6	45.54
A-83	6 x 6	152 x 152	3/8	9.53	14.9	22.17
A-84	6 x 6	152 x 152	7/16	11.11	17.2	25.60
A-85	6 x 6	152 x 152	1/2	12.70	19.6	29.17
A-86	6 x 6	152 x 152	9/16	14.29	21.9	32.59
A-87	6 x 6	152 x 152	5/8	15.88	24.2	36.01-
A-88	6 x 6	152 x 152	11/16	17.46	26.5	39.44
A-89	6 x 6	152 x 152	3/4	19.05	28.7	42.71
A-90	6 x 6	152 x 152	13/16	20.64	31.0	46.13
A-91	6 x 6	152 x 152	7/8	22.23	33.1	49.26
A-92	6 x 6	152 x 152	15/16	23.81	35.3	52.53
A-93	6 x 6	152 x 152	1	25.40	37.4	55.66
A-94	6 x 6	152 x 152	1 1/16	26.99	39.6	58.93
A-95	8 x 8	203 x 203	1/2	12.70	26.4	39.29
A-96	8 x 8	203 x 203	9/16	14.29	29.6	44.05
A-97	8 x 8	203 x 203	5/8	15.88	32.7	48.66
A-98	8 x 8	203 x 203	11/16	17.46	35.8	53.28
A-99	8 x 8	203 x 203	3/4	19.05	38.9	57.89
A-100	8 x 8	203 x 203	13/16	20.64	42.0	62.50
A-101	8 x 8	203 x 203	7/8	22.23	45.0	66.97
A-102	8 x 8	203 x 203	15/16	23.81	48.1	71.58
A-103	8 x 8	203 x 203	1	25.40	51.0	75.90
A-104	8 x 8	203 x 203	1 1/16	26.99	54.0	80.36
A-105	8 x 8	203 x 203	1 1/8	28.58	56.9	84.68

ANGLES WITH UNEQUAL LEGS

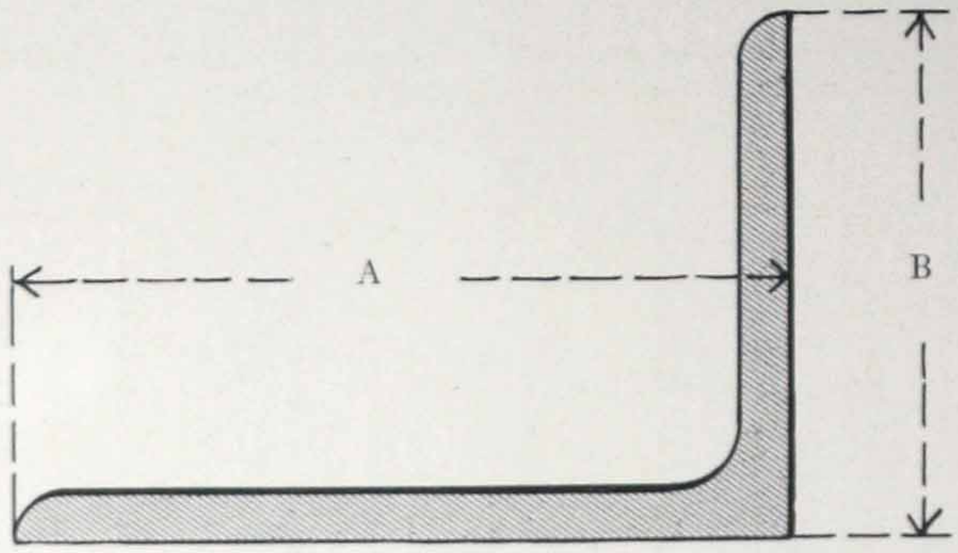


FIG. No. 7

DIMENSIONS AND WEIGHTS OF ANGLES WITH UNEQUAL LEGS

Section No.	Size		Thickness of Metal		Weight	
	Inches	M/M	Inch	M/M	Pounds, Per Foot	Kilos, Per Meter
	(A) (B)	(A) (B)				
A-106	2 x 1¼	51 x 32	3/16	4.76	1.96	2.92
A-107	2 x 1¼	51 x 32	1/4	6.35	2.55	3.79
A-108	2 x 1½	51 x 38	1/8	3.18	1.44	2.14
A-109	2 x 1½	51 x 38	3/16	4.76	2.12	3.15
A-110	2 x 1½	51 x 38	1/4	6.35	2.77	4.12
A-111	2 x 1½	51 x 38	5/16	7.94	3.39	5.04
A-112	2 x 1½	51 x 38	3/8	9.53	3.99	5.94
A-113	2½ x 2	64 x 51	1/8	3.18	1.86	2.77
A-114	2½ x 2	64 x 51	3/16	4.76	2.75	4.09
A-115	2½ x 2	64 x 51	1/4	6.35	3.62	5.39
A-116	2½ x 2	64 x 51	5/16	7.94	4.5	6.70
A-117	2½ x 2	64 x 51	3/8	9.53	5.3	7.89
A-118	2½ x 2	64 x 51	7/16	11.11	6.1	9.08
A-119	2½ x 2	64 x 51	1/2	12.70	6.8	10.12
A-120	3 x 2	76 x 51	3/16	4.76	3.07	4.57
A-121	3 x 2	76 x 51	1/4	6.35	4.1	6.10
A-122	3 x 2	76 x 51	5/16	7.94	5.0	7.44
A-123	3 x 2	76 x 51	3/8	9.53	5.9	8.78
A-124	3 x 2	76 x 51	7/16	11.11	6.8	10.12
A-125	3 x 2	76 x 51	1/2	12.70	7.7	11.46
A-126	3 x 2½	76 x 64	3/16	4.76	3.39	5.04
A-127	3 x 2½	76 x 64	1/4	6.35	4.5	6.70
A-128	3 x 2½	76 x 64	5/16	7.94	5.6	8.33
A-129	3 x 2½	76 x 64	3/8	9.53	6.6	9.82
A-130	3 x 2½	76 x 64	7/16	11.11	7.6	11.31
A-131	3 x 2½	76 x 64	1/2	12.70	8.5	12.65
A-132	3 x 2½	76 x 64	9/16	14.29	9.5	14.14
A-133	3½ x 2½	89 x 64	1/4	6.35	4.9	7.29
A-134	3½ x 2½	89 x 64	5/16	7.94	6.1	9.08
A-135	3½ x 2½	89 x 64	3/8	9.53	7.2	10.72
A-136	3½ x 2½	89 x 64	7/16	11.11	8.3	12.35
A-137	3½ x 2½	89 x 64	1/2	12.70	9.4	13.99
A-138	3½ x 2½	89 x 64	9/16	14.29	10.4	15.48
A-139	3½ x 2½	89 x 64	5/8	15.88	11.5	17.11
A-140	3½ x 2½	89 x 64	11/16	17.46	12.5	18.60
A-141	3½ x 3	89 x 76	1/4	6.35	5.4	8.04
A-142	3½ x 3	89 x 76	5/16	7.94	6.6	9.82
A-143	3½ x 3	89 x 76	3/8	9.53	7.9	11.76
A-144	3½ x 3	89 x 76	7/16	11.11	9.1	13.54
A-145	3½ x 3	89 x 76	1/2	12.70	10.2	15.18
A-146	3½ x 3	89 x 76	9/16	14.29	11.4	16.97
A-147	3½ x 3	89 x 76	5/8	15.88	12.5	18.60
A-148	3½ x 3	89 x 76	11/16	17.46	13.6	20.24
A-149	3½ x 3	89 x 76	3/4	19.05	14.7	21.88

ANGLES WITH UNEQUAL LEGS—(*Continued*)

DIMENSIONS AND WEIGHTS OF ANGLES WITH UNEQUAL LEGS

Section No.	Size		Thickness of Metal		Weight	
	Inches	M/M	Inch	M/M	Pounds, Per Foot	Kilos, Per Meter
	(A) (B)	(A) (B)				
A-149	3½ x 3	89 x 76	13/16	20.64	15.8	23.51
A-150	4 x 3	102 x 76	1/4	6.35	5.8	8.63
A-151	4 x 3	102 x 76	5/16	7.94	7.2	10.72
A-152	4 x 3	102 x 76	3/8	9.53	8.5	12.65
A-153	4 x 3	102 x 76	7/16	11.11	9.8	14.58
A-154	4 x 3	102 x 76	1/2	12.70	11.1	16.52
A-155	4 x 3	102 x 76	9/16	14.29	12.4	18.45
A-156	4 x 3	102 x 76	5/8	15.88	13.6	20.24
A-157	4 x 3	102 x 76	11/16	17.46	14.8	22.03
A-158	4 x 3	102 x 76	3/4	19.05	16.0	23.81
A-159	4 x 3	102 x 76	13/16	20.64	17.1	25.45
A-160	4 x 3½	102 x 89	5/16	7.94	7.7	11.46
A-161	4 x 3½	102 x 89	3/8	9.53	9.1	13.54
A-162	4 x 3½	102 x 89	7/16	11.11	10.6	15.77
A-163	4 x 3½	102 x 89	1/2	12.70	11.9	17.71
A-164	4 x 3½	102 x 89	9/16	14.29	13.3	19.79
A-165	4 x 3½	102 x 89	5/8	15.88	14.7	21.88
A-166	4 x 3½	102 x 89	11/16	17.46	16.0	23.81
A-167	4 x 3½	102 x 89	3/4	19.05	17.3	25.75
A-168	4 x 3½	102 x 89	13/16	20.64	18.5	27.53
A-169	4½ x 3	114 x 76	5/16	7.94	7.7	11.46
A-170	4½ x 3	114 x 76	3/8	9.53	9.1	13.54
A-171	4½ x 3	114 x 76	7/16	11.11	10.6	15.77
A-172	4½ x 3	114 x 76	1/2	12.70	11.9	17.71
A-173	4½ x 3	114 x 76	9/16	14.29	13.3	19.79
A-174	4½ x 3	114 x 76	5/8	15.88	14.7	21.88
A-175	4½ x 3	114 x 76	11/16	17.46	16.0	23.81
A-176	4½ x 3	114 x 76	3/4	19.05	17.3	25.75
A-177	4½ x 3	114 x 76	13/16	20.64	18.5	27.53
A-178	5 x 3	127 x 76	5/16	7.94	8.2	12.20
A-179	5 x 3	127 x 76	3/8	9.53	9.8	14.58
A-180	5 x 3	127 x 76	7/16	11.11	11.3	16.82
A-181	5 x 3	127 x 76	1/2	12.70	12.8	19.05
A-182	5 x 3	127 x 76	9/16	14.29	14.3	21.28
A-183	5 x 3	127 x 76	5/8	15.88	15.7	23.36
A-184	5 x 3	127 x 76	11/16	17.46	17.1	25.45
A-185	5 x 3	127 x 76	3/4	19.05	18.5	27.53
A-186	5 x 3	127 x 76	13/16	20.64	19.9	29.61
A-187	5 x 3½	127 x 89	5/16	7.94	8.7	12.95
A-188	5 x 3½	127 x 89	3/8	8.53	10.4	15.48
A-189	5 x 3½	127 x 89	7/16	11.11	12.0	17.86
A-190	5 x 3½	127 x 89	1/2	12.70	13.6	20.24
A-191	5 x 3½	127 x 89	9/16	14.29	15.2	22.62
A-192	5 x 3½	127 x 89	5/8	15.88	16.8	25.00
A-193	5 x 3½	127 x 89	11/16	17.46	18.3	27.23
A-194	5 x 3½	127 x 89	3/4	19.05	19.8	29.47
A-195	5 x 3½	127 x 89	13/16	20.64	21.3	31.70
A-196	5 x 3½	127 x 89	7/8	22.23	22.7	33.78
A-197	5 x 4	127 x 102	5/16	7.94	9.3	13.84
A-198	5 x 4	127 x 102	3/8	9.53	11.0	16.37
A-199	5 x 4	127 x 102	7/16	11.11	12.8	19.05
A-200	5 x 4	127 x 102	1/2	12.70	14.5	21.58
A-201	5 x 4	127 x 102	9/16	14.29	16.2	24.11
A-202	5 x 4	127 x 102	5/8	15.88	17.8	26.49
A-203	5 x 4	127 x 102	11/16	17.46	19.5	29.02
A-204	5 x 4	127 x 102	3/4	19.05	21.1	31.40
A-205	5 x 4	127 x 102	13/16	20.64	22.7	33.78
A-206	5 x 4	127 x 102	7/8	22.23	24.2	36.01
A-207	6 x 3½	152 x 89	5/16	7.94	9.8	14.58
A-208	6 x 3½	152 x 89	3/8	9.53	11.7	17.41
A-209	6 x 3½	152 x 89	7/16	11.11	13.5	20.09
A-210	6 x 3½	152 x 89	1/2	12.70	15.3	22.77

ANGLES WITH UNEQUAL LEGS—*(Continued)*

DIMENSIONS AND WEIGHTS OF ANGLES WITH UNEQUAL LEGS

Section No.	Size		Thickness of Metal		Weight	
	Inches	M/M	Inch	M/M	Pounds, Per Foot	Kilos, Per Meter
	(A) (B)	(A) (B)				
A-212	6 x 3½	152 x 89	9/16	14.29	17.1	25.45
A-213	6 x 3½	152 x 89	5/8	15.88	18.9	28.13
A-214	6 x 3½	152 x 89	11/16	17.46	20.6	30.66
A-215	6 x 3½	152 x 89	3/4	19.05	22.4	33.33
A-216	6 x 3½	152 x 89	13/16	20.64	24.0	35.72
A-217	6 x 3½	152 x 89	7/8	22.23	25.7	38.25
A-218	6 x 3½	152 x 89	15/16	23.81	27.3	40.63
A-219	6 x 3½	152 x 89	1	25.40	28.9	43.01
A-220	6 x 4	152 x 102	3/8	9.53	12.3	18.30
A-221	6 x 4	152 x 102	7/16	11.11	14.3	21.28
A-222	6 x 4	152 x 102	1/2	12.70	16.2	24.11
A-223	6 x 4	152 x 102	9/16	14.29	18.1	26.94
A-224	6 x 4	152 x 102	5/8	15.88	20.0	29.76
A-225	6 x 4	152 x 102	11/16	17.46	21.8	32.44
A-226	6 x 4	152 x 102	3/4	19.05	23.6	35.12
A-227	6 x 4	152 x 102	13/16	20.64	25.4	37.80
A-228	6 x 4	152 x 102	7/8	22.23	27.2	40.48
A-229	6 x 4	152 x 102	15/16	23.81	28.9	43.01
A-230	6 x 4	152 x 102	1	25.40	30.6	45.54
A-231	7 x 3½	178 x 89	3/8	9.53	13.0	19.35
A-232	7 x 3½	178 x 89	7/16	11.11	15.0	22.32
A-233	7 x 3½	178 x 89	1/2	12.70	17.0	25.30
A-234	7 x 3½	178 x 89	9/16	14.29	19.1	28.42
A-235	7 x 3½	178 x 89	5/8	15.88	21.0	31.25
A-236	7 x 3½	178 x 89	11/16	17.46	23.0	34.23
A-237	7 x 3½	178 x 89	3/4	19.05	24.9	37.06
A-238	7 x 3½	178 x 89	13/16	20.64	26.8	39.88
A-239	7 x 3½	178 x 89	7/8	22.23	28.7	42.71
A-240	7 x 3½	178 x 89	15/16	23.81	30.5	45.39
A-241	7 x 3½	178 x 89	1	25.40	32.3	48.07
A-242	8 x 6	203 x 152	7/16	11.11	20.2	30.06
A-243	8 x 6	203 x 152	1/2	12.70	23.0	34.23
A-244	8 x 6	203 x 152	9/16	14.29	25.7	38.25
A-245	8 x 6	203 x 152	5/8	15.88	28.5	42.41
A-246	8 x 6	203 x 152	11/16	17.46	31.2	46.43
A-247	8 x 6	203 x 152	3/4	19.05	33.8	50.30
A-248	8 x 6	203 x 152	13/16	20.64	36.5	54.32
A-249	8 x 6	203 x 152	7/8	22.23	39.1	58.19
A-250	8 x 6	203 x 152	15/16	23.81	41.7	62.06
A-251	8 x 6	203 x 152	1	25.40	44.2	65.78

Other sizes furnished upon receipt of specifications

BULB ANGLES

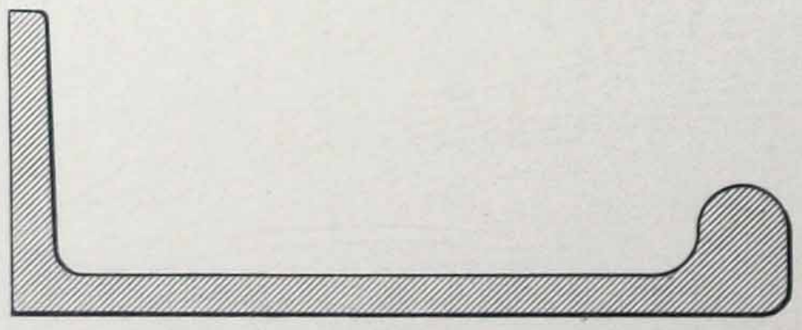


FIG. No. 8

We will be pleased to quote on bulb angles upon receipt of specifications.

TEES WITH EQUAL LEGS

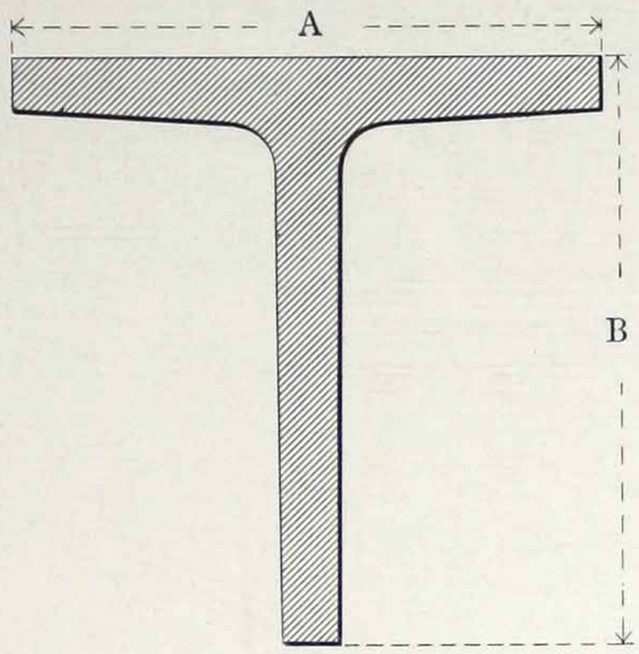


FIG. No. 9

DIMENSIONS AND WEIGHTS OF TEES WITH EQUAL LEGS

Section No.	Size				Thickness of Metal			Weight	
	Inches		M/M		Inch		M/M	Pounds, Per Foot	Kilos, Per Meter
	Flange (A)	Stem (B)	Flange (A)	Stem (B)	Flange (A)	Stem (B)	Flange and Stem		
T-1	1	1	25	25	1/8 to 5/32	1/8 to 5/32	3.18 to 3.97	0.89	1.32
T-2	1	1	25	25	3/16 to 7/32	3/16 to 7/32	4.76 to 5.56	1.25	1.86
T-3	1 1/4	1 1/4	32	32	3/16 to 7/32	3/16 to 7/32	4.76 to 5.56	1.59	2.37
T-4	1 1/4	1 1/4	32	32	1/4 to 9/32	1/4 to 9/32	6.35 to 9.15	2.02	3.01
T-5	1 1/2	1 1/2	38	38	3/16 to 7/32	3/16 to 7/32	4.76 to 5.56	1.94	2.89
T-6	1 1/2	1 1/2	38	38	1/4 to 9/32	1/4 to 9/32	6.35 to 7.15	2.47	3.68
T-7	1 3/4	1 3/4	45	45	3/16 to 3/16	3/16	4.76	2.26	3.36
T-8	1 3/4	1 3/4	45	45	1/4 to 5/16	1/4 to 5/16	6.35 to 7.94	3.09	4.60
T-9	2	2	51	51	1/4 to 5/16	1/4 to 5/16	6.35 to 7.94	3.56	5.30
T-10	2	2	51	51	5/16 to 3/8	5/16 to 3/8	7.94 to 9.53	4.3	6.40
T-11	2 1/4	2 1/4	57	57	1/4 to 5/16	1/4 to 5/16	6.35 to 7.94	4.1	6.10
T-12	2 1/4	2 1/4	57	57	5/16 to 3/8	5/16 to 3/8	7.94 to 9.53	4.9	7.29
T-13	2 1/2	2 1/2	64	64	5/16 to 3/8	5/16 to 3/8	7.94 to 9.53	5.5	8.19
T-14	2 1/2	2 1/2	64	64	3/8 to 7/16	3/8 to 7/16	9.53 to 11.11	6.4	9.52
T-15	3	3	76	76	5/16 to 3/8	5/16 to 3/8	7.94 to 9.53	6.7	9.97
T-16	3	3	76	76	3/8 to 7/16	3/8 to 7/16	9.53 to 11.11	7.8	11.61
T-17	3	3	76	76	7/16 to 1/2	7/16 to 1/2	11.11 to 12.70	8.9	13.24
T-18	3	3	76	76	1/2 to 9/16	1/2 to 9/16	12.70 to 14.29	9.9	14.73
T-19	3 1/2	3 1/2	89	89	3/8 to 7/16	3/8 to 7/16	9.53 to 11.11	9.2	13.69
T-20	3 1/2	3 1/2	89	89	1/2 to 9/16	1/2 to 9/16	12.70 to 14.29	11.7	17.41
T-21	4	4	102	102	7/16 to 1/2	7/16 to 1/2	12.	.....	.....
T-22	4	4	102	102	3/8 to 7/16	3/8 to 7/16	9.53 to 11.11	10.5	15.63
T-23	4	4	102	102	1/2 to 9/16	1/2 to 9/16	12.70 to 14.29	13.5	20.09

TEES WITH UNEQUAL LEGS

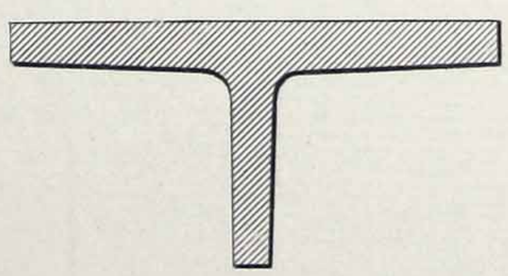


FIG. No. 10

We will be pleased to quote on tees with unequal legs upon receipt of specifications

Z-BARS

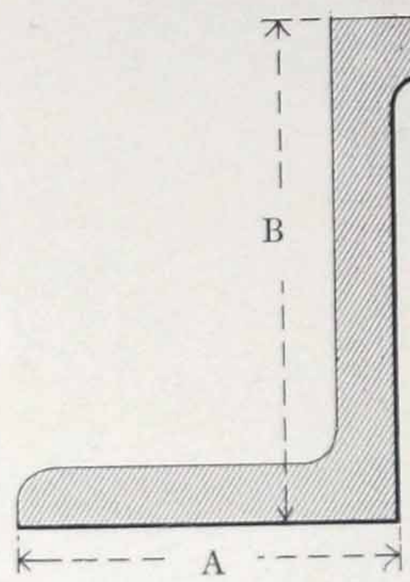


FIG. No. 11

DIMENSIONS AND WEIGHTS OF Z-BARS

Section No.	Size		Thickness of Metal		Weight	
	Inches Flange (A)—Web (B)—Flange (A)	Millimeters (Approximate)	Inch	M/M	Pounds, Per Foot	Kilos, Per Meter
Z-1	$2\frac{11}{16}$ x 3 x $2\frac{11}{16}$	68 x 76 x 68	$\frac{1}{4}$	6.35	6.7	9.97
Z-2	$2\frac{3}{4}$ x $3\frac{1}{16}$ x $2\frac{3}{4}$	70 x 78 x 70	$\frac{5}{16}$	7.94	8.5	12.65
Z-3	$2\frac{11}{16}$ x 3 x $2\frac{11}{16}$	68 x 76 x 68	$\frac{3}{8}$	9.53	9.8	14.58
Z-4	$2\frac{3}{4}$ x $3\frac{1}{16}$ x $2\frac{3}{4}$	70 x 78 x 70	$\frac{7}{16}$	11.11	11.5	17.11
Z-5	$2\frac{11}{16}$ x 3 x $2\frac{11}{16}$	68 x 76 x 68	$\frac{1}{2}$	12.70	12.6	18.75
Z-6	$2\frac{3}{4}$ x $3\frac{1}{16}$ x $2\frac{3}{4}$	70 x 78 x 70	$\frac{9}{16}$	14.29	14.3	21.28
Z-7	$3\frac{1}{16}$ x 4 x $3\frac{1}{16}$	78 x 102 x 78	$\frac{1}{4}$	6.35	8.2	12.20
Z-8	$3\frac{1}{8}$ x $4\frac{1}{16}$ x $3\frac{1}{8}$	79 x 103 x 79	$\frac{5}{16}$	7.94	10.3	15.33
Z-9	$3\frac{3}{16}$ x $4\frac{1}{8}$ x $3\frac{3}{16}$	81 x 105 x 81	$\frac{3}{8}$	9.53	12.5	18.60
Z-10	$3\frac{1}{16}$ x 4 x $3\frac{1}{16}$	78 x 102 x 78	$\frac{7}{16}$	11.11	13.8	20.54
Z-11	$3\frac{1}{8}$ x $4\frac{1}{16}$ x $3\frac{1}{8}$	79 x 103 x 79	$\frac{1}{2}$	12.70	15.9	23.66
Z-12	$3\frac{3}{16}$ x $4\frac{1}{8}$ x $3\frac{3}{16}$	81 x 105 x 81	$\frac{9}{16}$	14.29	18.0	26.79
Z-13	$3\frac{1}{16}$ x 4 x $3\frac{1}{16}$	78 x 102 x 78	$\frac{5}{8}$	15.88	18.9	28.13
Z-14	$3\frac{1}{8}$ x $4\frac{1}{16}$ x $3\frac{1}{8}$	79 x 103 x 79	$\frac{11}{16}$	17.46	20.9	31.10
Z-15	$3\frac{3}{16}$ x $4\frac{1}{8}$ x $3\frac{3}{16}$	81 x 105 x 81	$\frac{3}{4}$	19.05	23.0	34.23
Z-16	$3\frac{1}{4}$ x 5 x $3\frac{1}{4}$	83 x 127 x 83	$\frac{5}{16}$	7.94	11.6	17.26
Z-17	$3\frac{5}{16}$ x $5\frac{1}{16}$ x $3\frac{5}{16}$	84 x 129 x 84	$\frac{3}{8}$	9.53	14.0	20.83
Z-18	$3\frac{3}{8}$ x $5\frac{1}{8}$ x $3\frac{3}{8}$	86 x 130 x 86	$\frac{7}{16}$	11.11	16.4	24.41
Z-19	$3\frac{1}{4}$ x 5 x $3\frac{1}{4}$	83 x 127 x 83	$\frac{1}{2}$	12.70	17.9	26.64
Z-20	$3\frac{5}{16}$ x $5\frac{1}{16}$ x $3\frac{5}{16}$	84 x 129 x 84	$\frac{9}{16}$	14.29	20.2	30.06
Z-21	$3\frac{3}{8}$ x $5\frac{1}{8}$ x $3\frac{3}{8}$	86 x 130 x 86	$\frac{5}{8}$	15.88	22.6	33.63
Z-22	$3\frac{1}{4}$ x 5 x $3\frac{1}{4}$	83 x 127 x 83	$\frac{11}{16}$	17.46	23.7	35.27
Z-23	$3\frac{5}{16}$ x $5\frac{1}{16}$ x $3\frac{5}{16}$	84 x 129 x 84	$\frac{3}{4}$	19.05	26.0	38.69
Z-24	$3\frac{3}{8}$ x $5\frac{1}{8}$ x $3\frac{3}{8}$	86 x 130 x 86	$\frac{13}{16}$	20.64	28.4	42.26
Z-25	$3\frac{1}{2}$ x 6 x $3\frac{1}{2}$	89 x 152 x 89	$\frac{3}{8}$	9.53	15.7	23.36
Z-26	$3\frac{9}{16}$ x $5\frac{1}{8}$ x $3\frac{3}{8}$	90 x 154 x 90	$\frac{7}{16}$	11.11	18.4	27.38
Z-27	$3\frac{5}{8}$ x $6\frac{1}{8}$ x $3\frac{5}{8}$	92 x 156 x 92	$\frac{1}{2}$	12.70	21.1	31.40
Z-28	$3\frac{1}{2}$ x 6 x $3\frac{1}{2}$	89 x 152 x 89	$\frac{9}{16}$	14.29	22.8	33.93
Z-29	$3\frac{9}{16}$ x $6\frac{1}{16}$ x $3\frac{9}{16}$	90 x 154 x 90	$\frac{5}{8}$	15.88	25.4	37.80
Z-30	$3\frac{5}{8}$ x $6\frac{1}{8}$ x $3\frac{5}{8}$	92 x 156 x 92	$\frac{11}{16}$	17.46	28.1	41.82
Z-31	$3\frac{1}{2}$ x 6 x $3\frac{1}{2}$	89 x 152 x 89	$\frac{3}{4}$	19.05	29.4	43.75
Z-32	$3\frac{9}{16}$ x $6\frac{1}{16}$ x $3\frac{9}{16}$	90 x 154 x 90	$\frac{13}{16}$	20.64	32.0	47.62
Z-33	$3\frac{5}{8}$ x $6\frac{1}{8}$ x $3\frac{5}{8}$	92 x 156 x 92	$\frac{7}{8}$	22.23	34.6	51.49

EXTRACTS FROM STANDARD SPECIFICATIONS

ADOPTED BY

THE ASSOCIATION OF AMERICAN STEEL MANUFACTURERS

STRUCTURAL STEEL

Grades. These specifications cover two classes of structural steel, namely:

Class A steel, to be used for railway bridges and ships.
Class B steel, to be used for buildings, highway bridges, train sheds and similar structures.

I. MANUFACTURE

Process. Steel for Class A shall be made by the open-hearth process. Steel for Class B may be made either by the open-hearth or by the Bessemer process.

II. CHEMICAL PROPERTIES

Chemical Composition. The steel shall conform to the following requirements as to chemical composition:

Elements Considered	Class A Steel	Class B Steel
Phosphorus, maximum, per cent.:		
Basic open hearth	0.04	0.06
Acid open hearth	0.06	0.08
Bessemer	....	0.10
Sulphur, maximum, per cent	0.05	....

III. PHYSICAL PROPERTIES

Tension Tests. The steel shall conform to the following requirements as to tensile properties:

Properties Considered	Class A Steel	Class B Steel
Tensile strength, lb. per sq. in	55,000-65,000	55,000-65,000*
Yield point, minimum, lb. per sq. in	0.5 tens. str.	0.5 tens. str.
Elongation in 8 in., minimum, per cent	$\frac{1,400,000\dagger}{\text{tens. str.}}$	$\frac{1,400,000\dagger}{\text{tens. str.}}$
Elongation in 2 in., minimum, per cent. (Fig. 2)	22	22

* See "Modification in Tensile Strength," below. † See "Modifications in Elongation," below.

Modification in Tensile Strength. Class B steel may have tensile strength up to 70,000 pounds maximum, provided the elongation is not less than the percentage required for 65,000 pounds tensile strength.

Modifications in Elongation. For material over $\frac{3}{4}$ inch in thickness, a deduction of 1 from the percentage of elongation in 8 inches specified for Classes A and B in section above shall be made for each increase of $\frac{1}{8}$ inch in thickness above $\frac{3}{4}$ inch, to a minimum of 18 per cent.

For material under $\frac{5}{16}$ inch in thickness, a deduction of 2.5 from the percentage of elongation in 8 inches specified for Classes A and B in section above shall be made for each decrease of $\frac{1}{16}$ inch in thickness below $\frac{5}{16}$ inch.

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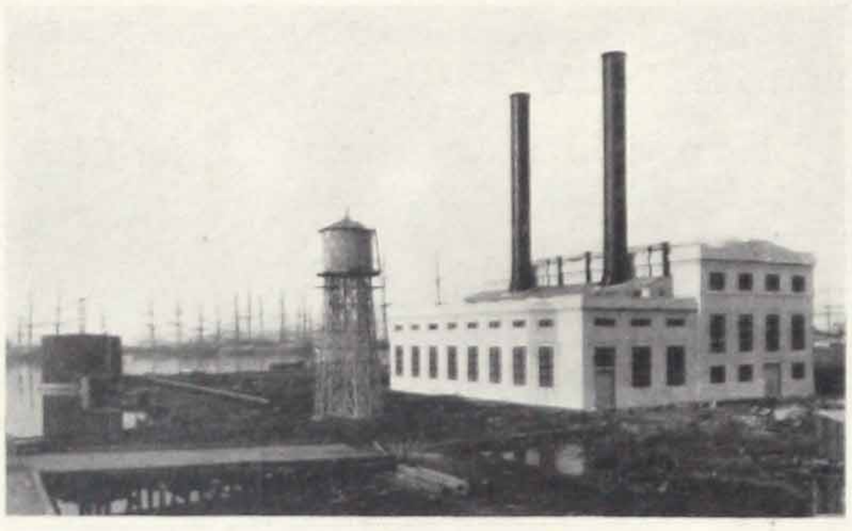
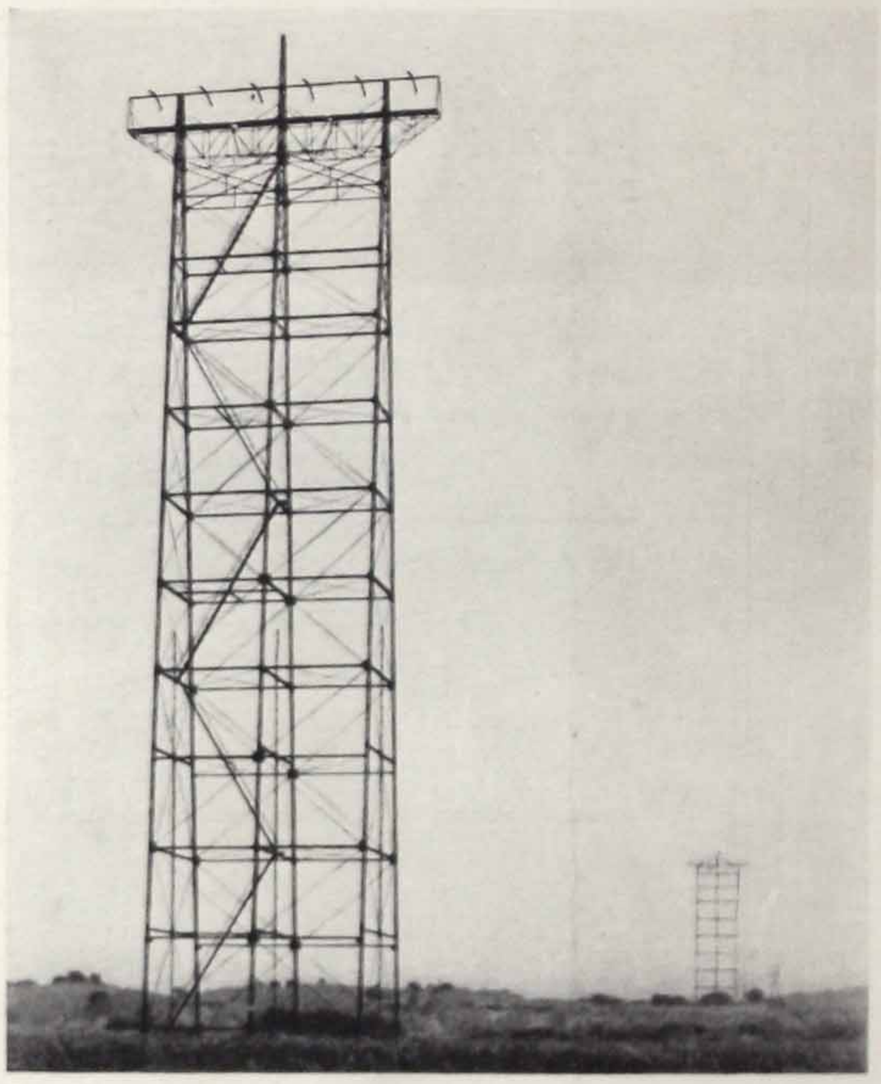
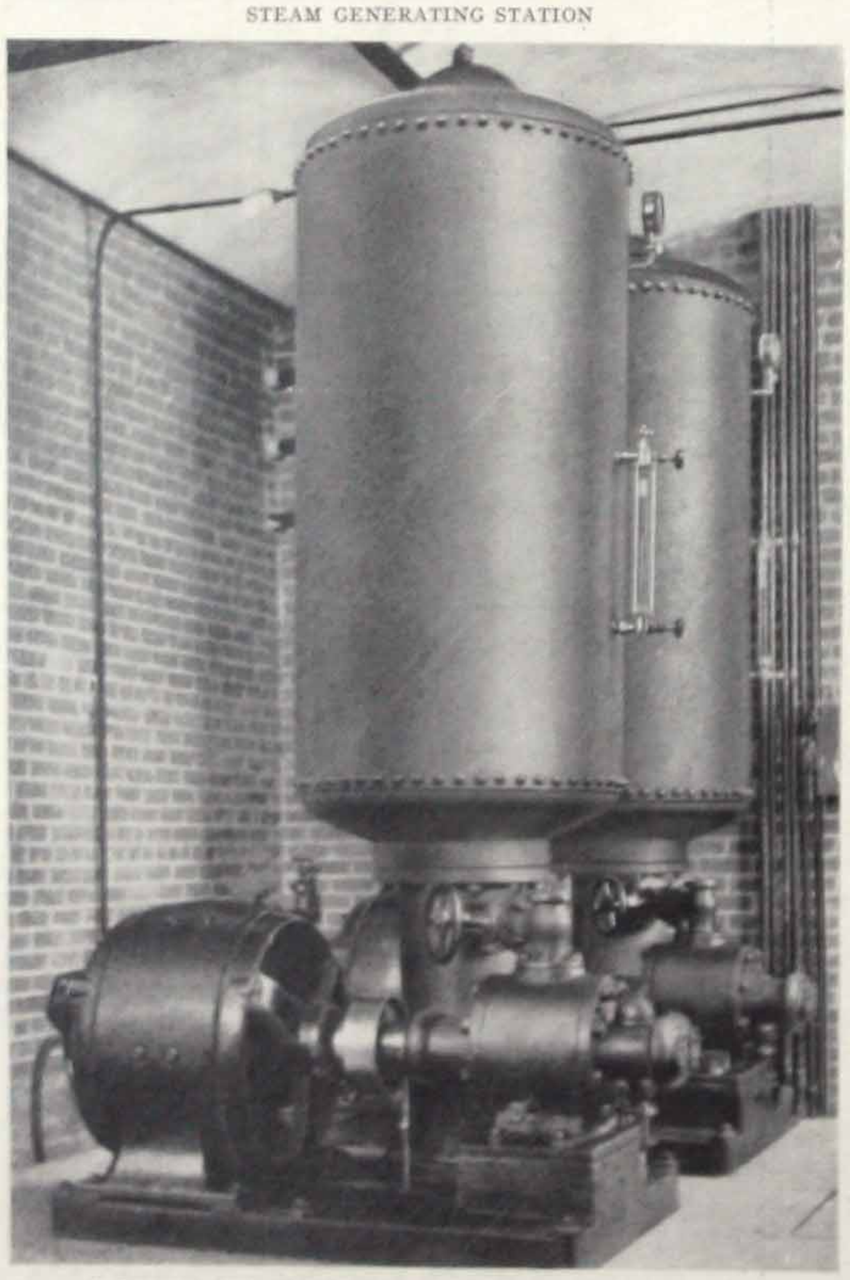


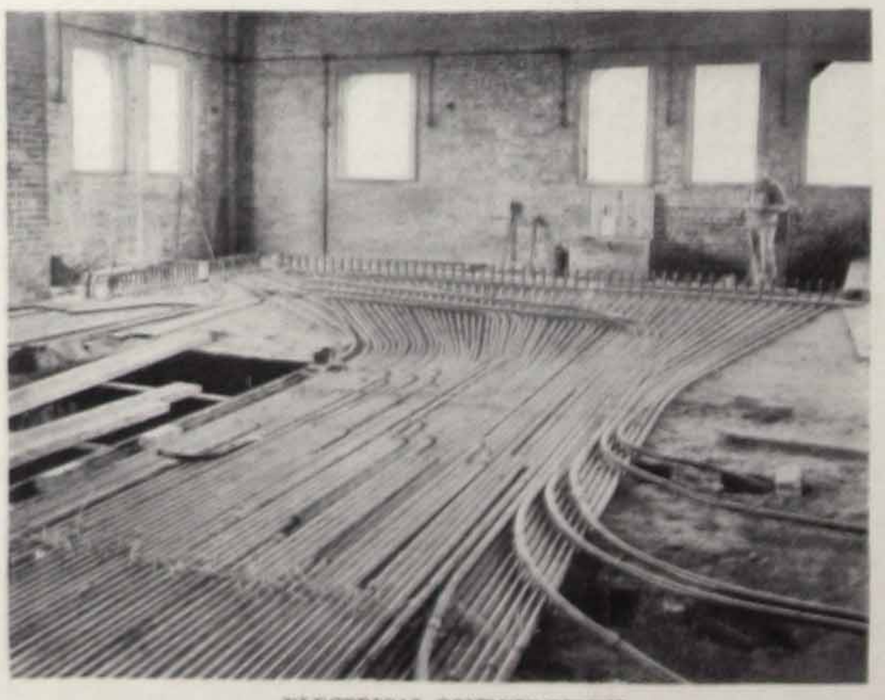
STEAM GENERATING STATION



RIVER CROSSING TRANSMISSION TOWER



OIL PUMP AND ACCUMULATOR IN HYDROELECTRIC PLANT



ELECTRICAL CONDUIT PIPING

The illustrations above show work carried out by our Engineering and Construction Department